

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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M A S T E R M I N I M U M E Q U I P M E N T L I S T

CESSNA 425/441

FEDERAL AVIATION ADMINISTRATION
AIRCRAFT EVALUATION GROUP
1201 WALNUT ST. SUITE 900
KANSAS CITY, MO 64106

TELEPHONE: (816) 426-3946

FAX: (816) 426-3084

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4	6/1/1989	ALL PAGES	
5	6/22/1989	PREAMBLE	
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Highlights of Change

All asterisks representing the requirement for placards in Column 4 were deleted in accordance with Policy Letter 61 designated as Global Change 8.

- ATA 21 Items in this section were combined and pages 4 & 5 deleted.
- ATA 23-3 Passenger Address relief was changed in accordance with Policy Letter 9, Rev. 1 designated as Global Change 13.
- ATA 23-4 Added relief for Boom Microphones in accordance with Policy Letter 58 designated as Global Change 14.
- ATA 23-5 Added relief for Passenger Call System.
- ATA 25-1 Added relief for right side Cockpit Shoulder Harness.
- ATA 25-3 Added relief for Flotation Devices.
- ATA 25-6 Added relief for First Aid Kits.
- ATA 26-1 Added relief for Portable Fire Extinguisher in accordance with Policy Letter 75 designated as Global Change 19.
- ATA 31-3 Added "If installed" symbol.
- ATA 33-4 Changed proviso for Instrument Lighting System in accordance with Policy Letter 77 designated as Global Change 21.
- ATA 33-5 Added repair interval.
- ATA 33-7 Added "If installed" symbol.
- ATA 33-8 Deleted the proviso.
- ATA 34-1 Changed the proviso for Altimeters.
- ATA 34-2 Changed the proviso for Airspeed Indicators.
- ATA 34-3 Changed the proviso for Gyroscopic Pitch and Bank Indicator.
- ATA 34-4 Changed the proviso for Gyroscopic Rate of Turn Indicator.

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Highlights of Change

- ATA 34-5 Changed the proviso for Gyroscopic Directional Indicator.
- ATA 34-7 Combined Transponder and Altitude Reporting System relief.
- ATA 34-13 Changed proviso in accordance with Policy Letter 76 designated as Global Change 20.
- ATA 34-15 Changed the proviso.
- ATA 34-21 Added relief for TCAS 1.
- ATA 34-22 Added relief for TCAS 2.
- ATA 34-23 Added relief for Ground Proximity Warning System (GPWS).

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Definitions

1. System Definitions.

System numbers are based on the Air Transport Association (ATA) Specification Number 100 and items are numbered sequentially.

- a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.
 - b. "Number Installed" (Column 2) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.
 - c. "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.
- NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the Administrator.
- d. "Remarks or Exceptions" (Column 4) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.
 - e. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

2. "Airplane/Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific aircraft is listed on the applicable Type

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Certificate Data Sheet.

3. "As required by FAR" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the Federal Aviation Regulations operating rules. The number of items required by the FAR must be operative. When the listed item is not required by FAR it may be inoperative for time specified by repair category.

4. Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

5. "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the item installed.

6. "Deleted" in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

7. "ER" refers to extended range operations of a two-engine airplane which has a type design approval for ER operations and complies with the provisions of Advisory Circular 120-42A.

8. "Federal Aviation Regulations" (FAR) means the applicable portions of the Federal Aviation Act and Federal Aviation Regulations.

9. "Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

10. "Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s).

11. Alphabetical symbol in Column 4 indicates a proviso (condition or limitation) that must be complied with for

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operation with the listed item inoperative.

12. "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

13. "Notes:" in Column 4 provides additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

14. Inoperative components of an inoperative system:
Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

15. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

16. "(O)" symbol indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are

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required to be published as a part of the operator's manual or MEL.

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by the Administrator.

17. "Deactivated" and "Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.

18. "Visual Flight Rules" (VFR) is as defined in FAR Part 91. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

19. "Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

20. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.

21. "Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

22. Repair Intervals: All users of an MEL approved under FAR 121, 125, 129 and 135 must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:

Category A. Items in this category shall be repaired within the time interval specified in the remarks column of the operator's approved MEL.

Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the aircraft maintenance

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record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight the 26th and end at midnight the 29th.

Category C. Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the 10 day interval would begin at midnight the 26th and end at midnight February 5th.

Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours), excluding the day the malfunction was recorded in the aircraft maintenance log and/or record.

The letter designators are inserted adjacent to Column 2.

23. Electronic fault alerting system - General

New generation aircraft display system fault indications to the flight crew by use of computerized display systems. Each aircraft manufacturer has incorporated individual design philosophies in determining the data that would be represented. The following are customized definitions (specific to each manufacturer) to help determine the level of messages affecting the aircraft's dispatch status. When preparing the MEL document, operators are to select the proper Definition No. 23 for their aircraft, if appropriate.

a. BOEING (B-757/767, B-747-400, B-777)

Boeing airplanes equipped with Engine Indicating and Crew Alerting Systems (EICAS), provide different priority levels of system messages (WARNING, CAUTION, ADVISORY, STATUS and MAINTENANCE). Any messages that affects airplane dispatch status will be displayed at a STATUS message level or higher. The absence of an EICAS STATUS or higher level (WARNING, CAUTION, ADVISORY) indicates that the system/component is operating within its approved operating limits or tolerances.

System conditions that result only in a maintenance level message, i.e. no correlation with a higher level EICAS message,

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do not affect dispatch and do not require action other than as addressed within an operators standard maintenance program.

b. DOUGLAS (MD-11)

Some Douglas aircraft are equipped with an alerting function which is a subsystem within the Electronic Instrument System (EIS). The alerting function provides various levels of system condition alerts (WARNING, CAUTION, ADVISORY, MAINTENANCE and STATUS).

Alerts that affect aircraft dispatch will include WARNING, CAUTION, STATUS or MAINTENANCE level. MAINTENANCE alerts are displayed on the status page of the EIS display panel under the maintenance heading.

A MAINTENANCE alert on the EIS indicates the presence of a system fault which can be identified by the Central Fault Display System (CFDS) interrogation. The systems are designed to be fault tolerant, however, for any MAINTENANCE alert, the MEL must be verified for dispatch purposes.

c. AIRBUS (A-300-600, A-310, A-320/319/321, A-330, A-340)

Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages (WARNING, CAUTION, STATUS, and ADVISORY). A-320/319/321, A-330, and A-340 also provide MAINTENANCE status messages.

d. FOKKER (FK-100)

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Fokker aircraft are equipped with Multi Function Display System (MFDS) which provides electronic message referring to the different priority levels of system information (WARNING (red), CAUTION (amber), AWARENESS (cyan) AND STATUS (white). Any messages that affects aircraft dispatch will be at the WARNING, CAUTION or AWARENESS level. In these cases the MEL must be verified for dispatch capability and maintenance may be required.

System conditions that only require maintenance are not presented on the flight deck. These maintenance indications/messages may be presented on the Maintenance & Test Panel (MAP) or the Centralized Fault Display Unit (CFDU) and by dedicated Built In Test Evaluation (BITE) of systems.

24. "Administrative control item" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the item becomes an MMEL item rather than an administrative control item.

25. "****" symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provide authority to install or remove an item from an aircraft.

26. "Excess Items" means those items that have been installed that are redundant to the requirements of the FARs.

27. "Day of Discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft

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maintenance log and or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, i.e., categories "A, B, C, and D."

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Preamble
(Effective 6/14/89)

The following is applicable for authorized certificate holders operating under Federal Aviation Regulations (FAR) Parts 121, 125, 129, 135: The FAR require that all equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, the Rules also permit the publication of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety. A Master Minimum Equipment List (MMEL) is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA approved MMEL includes those items of equipment related to airworthiness and operating regulations and other items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. The MMEL is the basis for development of individual operator MELs which take into consideration the operator's particular aircraft equipment configuration and operational conditions. Operator MELs, for administrative control, may include items not contained in the MMEL; however, relief for administrative control items must be approved by the Administrator. An operator's MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved and authorized, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of FAR requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the Aircraft Flight Manual Limitations, Emergency Procedures or with Airworthiness Directives. It is important to remember that all equipment related to the airworthiness and the operating regulations of the aircraft not listed on the MMEL must be operative.

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Preamble
(Effective 6/14/89)

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that an acceptable level of safety is maintained.

The MEL is intended to permit operation with inoperative items of equipment for a period of time until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. The MEL provides for release of the aircraft for flight with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/Logbook as prescribed by FAR. The item is then either repaired or may be deferred per the MEL or other approved means acceptable to the Administrator prior to further operation. MEL conditions and limitations, do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.

When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued as prescribed by FAR. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. When operating with multiple inoperative items, the interrelationships between those items and the effect on aircraft operation and crew workload will be considered.

Operators are to establish a controlled and sound repair program including the parts, personnel, facilities, procedures, and schedules to ensure timely repair.

WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS, AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED.

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Guidelines for (O) & (M) Procedures

The FOEB has identified a need for certain procedures to provide an adequate level of safety while providing relief for the following items. These procedures must be established by the operator. The following guidelines are to help establish these required procedures.

- ATA 21-1 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 21-2 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 21-3 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 21-4 (M)Maintenance procedure to ensure valve(s) is in the closed position.
- ATA 21-6 (M)Maintenance procedure to ensure valve(s) is in the closed position.
- ATA 21-16 (M)Maintenance procedure to ensure flow control valves are in closed position.
- ATA 21-19 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 22-1 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 22.2 (M)Maintenance procedure to ensure no mechanical/electrical fault exists that could create an unsafe condition.
- ATA 23-3 (O)Operations procedure to ensure appropriate oral briefings are provided to the passengers.
- ATA 27-1 (M)Maintenance procedure to ensure failure of electric trim will not interfere with operation of manual trim.
- ATA 29-1 (M)Maintenance procedure to ensure that hydraulic pump failure will not adversely affect engine operation or cause contamination or failure of the hydraulic system.

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Guidelines for (O) & (M) Procedures

- 31.2 (O)Operations procedure to record elapsed flight time.
- 32.1 (O)Operations procedure to prevent movement of aircraft when stopped or parked.
- 33.8 (O)Operations procedure to ensure appropriate briefing is provided to the passengers.
- 34-22-1 (M)Maintenance procedure to ensure system is deactivated and secured.
- 34-22-2 (O)Operations procedure to ensure TA and RA display is visible to the non-flying pilot and audio functions are operative on flying pilot side.
- 34-22-3 (O)Operations procedure to ensure non-flying pilot monitors pilot's display.
(O)Operations procedure to ensure TA ONLY mode is selected and all TA functions/elements are operative.
- 34-22-4 (O)Operations procedure to ensure all RA display/functions are operative.
- 34-23-1 (O)Operations procedure to ensure alternate procedures are established and used for appropriate inoperative mode.
- 34-23-4 (O)Operations procedure to ensure alternate procedures are established and used for inoperative callout(s).
- 34-23-5 (O)Operations procedure to ensure alternate procedures are established and used for inoperative windshear mode.

U.S. DEPARTMENT OF TRANSPORTATION

MASTER MINIMUM EQUIPMENT LIST

FEDERAL AVIATION ADMINISTRATION

AIRCRAFT:

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 AIR CONDITIONING						
1.	Air Cycle Machine (CE-441)	C	1	0	(M)May be inoperative for unpressurized flight.	
2.	Air Conditioner System - Freon (CE-441)	C	1	0	(M)	
3.	Air Conditioner System (CE-425)	C	1	0	(M)	
4.	Flow Control Valves (CE-441)	C	2	1	(M)One valve may be inoperative for pressurized flight provided the failed valve is in the closed position.	
					OR	
		C	2	0	(M)May be inoperative in the closed position for unpressurized flight.	
5.	Emergency Pressurization Valve (CE-441)	C	1	0	May be inoperative for unpressurized flight.	
6.	Ground Flow Control Valves (CE-441)	C	2	0	(M)May be inoperative in the closed position.	
7.	Cabin Vent Control	C	1	0	May be inoperative in the open position for unpressurized flight.	
8.	Cabin Pressurization Control System	C	1	0	May be inoperative for unpressurized flight.	

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21	AIR CONDITIONING					
9.	Pressurization Source Selector Switch	C	1	0		May be inoperative for unpressurized flight with selector switch in OFF position.
10.	Cabin Vertical Speed Indicator	C	1	0		May be inoperative provided: a) Cabin Altimeter is operative and b) Cabin Differential Pressure Indicator is operative. OR
		C	1	0		May be inoperative for unpressurized flight.
11.	Cabin Altimeter	C	1	0		May be inoperative provided Cabin Differential Pressure Indicator is operative. OR
		C	1	0		May be inoperative for unpressurized flight.
12.	Cabin Differential Pressure Indicator	C	1	0		May be inoperative provided Cabin Altimeter is operative. OR
		C	1	0		May be inoperative for unpressurized flight.
13.	Cabin Altitude Warning System	C	1	0		May be inoperative for unpressurized flight. OR
		C	1	0		May be inoperative for pressurized flight at or below

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2.	NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21 AIR CONDITIONING						
14. Automatic Cabin Air Temperature Controller (CE-441)	C	1	0			May be inoperative provided manual control system is operative.
15. Ground Bleed Air Light (CE-441)	C	1	0			
15. Emergency Pressurization Light						Deleted, Rev. 6
16. Air Duct Overheat Light (CE-441)	C	1	0			(M)May be inoperative provided: a) Flight is made unpressurized and b) Pressurization source valves are in the closed position.
17. Cabin Fan (CE-441)	C	1	0			
18. Cabin Fan (CE-425)	C	1	0			May be inoperative provided the auxiliary electrical heat is not used.
19. Auxiliary Electric Heater (CE-425)	C	1	0			(M)

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SYSTEM & SEQUENCE NUMBERS	Item	1.	2.	NUMBER INSTALLED	3.	NUMBER REQUIRED FOR DISPATCH	4.	REMARKS OR EXCEPTIONS
22 AUTO FLIGHT								
1. Autopilot	C	1	0		(M)As required by FAR.			
2. Yaw Damper	C	1	0		(M)			

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23 COMMUNICATIONS					
1. Communications Equipment (VHF, HF, UHF)	C	-	-		As required by FAR.
2. Cockpit Voice Recorder (CVR) System	A	1	0		May be inoperative provided repairs are made within three flight days.
3. Passenger Address					
1) Passenger Configuration	B	1	0		(O)May be inoperative provided alternate, normal and emergency procedures, and/or operating restrictions are established and used.
2) Cargo Configuration	D	1	0		
4. Boom Microphones ***					
1) Cockpit Voice Recorder Equipped to Record Boom Microphone per FAR 135.151(d)	A	-	0		May be inoperative provided repairs are made within three flight days.
2) Cockpit Voice Recorder Not Equipped to Record Boom Microphone	D	-	0		
5. Passenger Call *** System	C	1	0		

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SYSTEM & SEQUENCE NUMBERS		Item	1.	2.	NUMBER INSTALLED	3.	NUMBER REQUIRED FOR DISPATCH	4.	REMARKS OR EXCEPTIONS
25 EQUIPMENT/FURNISHINGS									
1.	Cockpit Shoulder Harness	C	2	1					Right side may be inoperative provided seat is not occupied.
2.	Passenger Seats	C	-	0					May be inoperative provided: <ul style="list-style-type: none"> a) Affected seat does not block emergency egress to an aisle or exit and b) Affected seat is blocked and placarded "DO NOT OCCUPY". NOTE: <ul style="list-style-type: none"> 1. A seat with an inoperative seat belt or shoulder harness is considered to be inoperative. 2. A seat with an inoperative recline mechanism is considered to be inoperative if the seat back cannot be secured in the upright position.
3.	Flotation Devices	D	-	0					Any in excess of those required by FAR may be inoperative.
4.	ELT	C	1	0					As required by FAR
								OR	
		C	1	0					May be inoperative for published scheduled flights in scheduled air carrier service.

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			4. REMARKS OR EXCEPTIONS	
25 EQUIPMENT/FURNISHINGS 5. Passenger Convenience Items		-	-	Passenger convenience items, as expressed in this MMEL, are those related to passenger convenience, comfort or entertainment such as but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc. Items addressed elsewhere in this document shall not be included. (M) and (0) procedures may be required in the air carrier's appropriate document.
6. First Aid Kits	D	-	-	Any in excess of those required by FAR may be incomplete or missing provided required distribution is maintained.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2.	NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26 FIRE PROTECTION						
1. Portable Fire Extinguisher	D	-	-			Any in excess of those required by FAR may be inoperative or missing provided: a) The inoperative fire extinguisher is tagged inoperative, removed from the installed location, and placed out of sight so it can not be mistaken for a functional unit and b) Required distribution is maintained. Deleted, Rev. 6
2. Fire Extinguishing Systems						
3. Total Cabin Flood Fire Extinguishing System	C	1	0			

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27	FLIGHT CONTROLS					
1.	Electric Elevator Trim System	C	1	0	(M)	

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SYSTEM & SEQUENCE NUMBERS	Item	1.	2.	NUMBER INSTALLED		3.	NUMBER REQUIRED FOR DISPATCH	4.	REMARKS OR EXCEPTIONS
28 FUEL SYSTEM									
1. Fuel Low Level Warning Lights	C	2	0						
2. Fuel Totalizer	C	1	0						

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
29	HYDRAULIC POWER					
1.	Engine Driven Pumps	C	2	1	(M)One may be inoperative.	
2.	Hydraulic Flow Low Lights	C	2	1	One hydraulic flow low light may be inoperative if the corresponding hydraulic pump is inoperative.	

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30 ICE AND RAIN PROTECTION				
1. Pitot Heaters	B	2 0		Right Pitot Heater may be inoperative. Left Pitot Heater may be inoperative except for: a) IFR passenger carrying operations and b) Flight in known or forecast icing conditions. NOTE: Two heated pitot tubes are required for these conditions if a second airspeed indicator is installed and operative.
2. Airfoil De-Ice System	C	1 0		May be inoperative provided flight is not operated in known or forecast icing conditions.
3. Heated Windshield System	C	1 0		May be inoperative provided flight is not operated in known or forecast icing conditions.
4. Propeller De-Icing Systems	C	2 0		May be inoperative provided flight is not operated in known or forecast icing conditions.
5. Stall Warning/ Angle of Attack Heater	C	1 0		May be inoperative provided flight is not operated in known or forecast icing conditions.
6. Windshield Alcohol System	C	1 0		May be inoperative provided flight is not operated in known or forecast icing conditions.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31 INDICATING/RECORDING SYSTEMS				
1. Clock with sweep second hand, or electric digital readout clock	C	1	0	May be inoperative for VFR.
2. Flight Hour Recorder	C	1	0	(0)
3. Flight Data *** Recorder	B	1	0	May be inoperative provided Cockpit Voice Recorder (CVR) is operative.

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SYSTEM &

Item 1.

2. NUMBER INSTALLED

SEQUENCE

3. NUMBER REQUIRED FOR DISPATCH

NUMBERS

4. REMARKS OR EXCEPTIONS

32 LANDING GEAR

1. Parking Brake

C

1

0

(0)

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
33	LIGHTS					
1.	Position Lights	C	3	0		May be inoperative for day operations.
2.	Anti-collision Beacon Light System	B	1	0		May be inoperative for day operations.
3.	Landing Lights	C	2	0		May be inoperative for day operations.
4.	Cockpit/ Flight Deck/ Flight Compartment and Instrument Lighting System	C	-	-		Individual lights may be inoperative provided remaining lights are: a) Sufficient to clearly illuminate all required instruments, controls, and other devices for which it is provided, b) Positioned so that direct rays are shielded from flight crewmembers eyes and c) Lighting configuration and intensity is acceptable to the flight crew.
5.	Wing Ice Light	C	-	0		May be inoperative provided a portable lamp/light of adequate capacity for wing and/or control surface inspection is available for night operations in icing conditions.
6.	Taxi Light	C	1	0		
7.	Wing Tip *** Recognition Lights	C	1	0		
8.	Passenger Notice (No Smoking - Fasten Seat Belt) Sign	C	1	0	(0)	

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2.	NUMBER INSTALLED	
			3. NUMBER REQUIRED FOR DISPATCH	
33 LIGHTS 9. Oxygen Light 10. Cabin Lights	C	-	<th data-bbox="787 352 1469 405">4. REMARKS OR EXCEPTIONS</th> DELETED Item moved to Page 35-1. May be inoperative provided lighting configuration is acceptable to the flight crew.	4. REMARKS OR EXCEPTIONS

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 NAVIGATION						
1. Altimeters, Adjustable for barometric pressure		B	2	1	1	May be inoperative on right side provided a second in command is not required for the flight. NOTE: Where a servoed electric altimeter is installed, a functioning pneumatic indicator is required.
2. Airspeed Indicator		C	2	1	1	May be inoperative on right side provided a second in command is not required for the flight. NOTE: Where a servoed electric airspeed is installed, a functioning pneumatic indicator is required.
3. Gyroscopic Pitch and Bank Indicator Systems		B	2	1	1	May be inoperative on right side provided a second in command is not required for the flight.
4. Gyroscopic Rate of Turn/Slip Skid Indicators		B	2	0	0	May be inoperative on right side. May be inoperative on left side except for IFR, passenger carrying VFR Over-the-Top, and passenger carrying VFR night flights.
5. Gyroscopic Directional Indicator Systems		B	2	1	1	May be inoperative on right side provided a second in command is not required for the flight.
6. Vertical Speed Indicators		B	2	0	0	May be inoperative on right side. May be inoperative on left side except for IFR passenger carrying operations.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 NAVIGATION					
8. Navigation Equipment (VOR/ILS), Loran, VLF/Omega, GPS, INS, Doppler, RNAV)	C	-	-		As required by FAR.
9. Weather Radar/Thunderstorm Detection Equipment	C	1	0		As required by FAR.
10. Marker Beacon	C	1	0		May be inoperative provided approach procedure does not require its use.
11. Flight Director	C	1	0		
12. Radio Altimeter	C	1	0		
13. ATC Transponders and Automatic Altitude Reporting Systems	D	-	-		Any in excess of those required by FAR may be inoperative.
14. DME	C	1	0		As required by FAR.
15. Standby Attitude *** Indicator	C	1	0		May be inoperative provided AHRS, EFIS or Laser Gyro are not installed.
16. ADF	C	1	0		As required by FAR.
17. RMI	C	1	0		
18. Altitude Alerter ***	B	1	0		
19. Angle of Attack System ***	C	1	0		

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 NAVIGATION 20. Nonstabilized Magnetic Compass	B	1	0	May be inoperative provided any combination of three gyro or INS (IRU) stabilized compass systems are operative.
				OR
	B	1	0	May be inoperative provided: a) Any combination of two gyro or INS stabilized compass systems are operative and b) Aircraft is operated with dual independent navigation capability and under positive radar control by ATC on the enroute portion of the flight.
				OR
	B	1	0	May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two stabilized directional gyro systems are installed, operative, and used in conjunction with approved free gyro navigation techniques.

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34 NAVIGATION						
21.	Traffic Alert	C	1	0		May be inoperative until required by FAR.
***	Collision Avoidance System (TCAS 1)					
22.	Traffic Alert					
***	Collision Avoidance System (TCAS 2)					
	1) TCAS System	C	-	0		(M)May be inoperative provided the system is deactivated and secured.
	2) Combined TA and	C	2	1		(O)One may be inoperative on the non-flying pilot side provided:
***	RA Dual Displays					a) TA and RA elements and audio functions are operative on flying pilot side and
						b) TA and RA display indications are visible to the non-flying pilot.
	3) Resolution Advisory (RA) Display System(s)	C	2	1		(O)One may be inoperative on non-flying pilot side.
		C	-	0		(O)May be inoperative provided:
						a) All Traffic Alert (TA) display elements and voice command audio functions are operative and
						b) TA only mode is selected by the crew.
	4) TA Display System(s)	C	-	0		(O)May be inoperative provided all installed RA display and audio functions are operative.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 NAVIGATION 23. Ground Proximity *** Warning Systems				
1) Modes 1-4	A	- 0		(O)May be inoperative provided: a) Alternate procedures are established and used and b) Repairs are made within two flight days.
2) Test Mode	A	1 0		May be inoperative provided: a) GPWS is considered inoperative and b) Repairs are made within two flight days.
3) Glideslope Deviation (Mode 5)	B	2 0		
4) Advisory *** Callouts	C	- 0		(O)May be inoperative provided alternate procedures are established and used.
5) Windshear Mode ***	C	- 0		(O)May be inoperative provided alternate procedures are established and used.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35 OXYGEN					
1. Oxygen System (Passengers)	C	-	-		As required by FAR.
2. Oxygen Light	C	1	0		

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
52	DOORS					
1.	Door Seal	C	1	0		May be inoperative for unpressurized flight.

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
61 PROPELLERS					
1. Propeller	C	1	0		
Synchronizer					
Synchrophaser					

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
76 ENGINE CONTROLS 1. Electronic Fuel Computers (CE-441)	C	2	0	<p>May be inoperative provided:</p> <ul style="list-style-type: none"> a) Manual mode operating procedures in AFM are followed, b) Manual mode performance charts in AFM are used and c) Propeller reversing is not used for engine operating in manual mode. <p>NOTE: Propeller synchrophaser is inoperative in manual mode.</p>

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SYSTEM & SEQUENCE NUMBERS	Item 1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
77 ENGINE INDICATING					
1. Fuel Flow Indicators	C	2	0		

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SYSTEM & SEQUENCE NUMBERS		Item 1.	2.	NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
79 ENGINE OIL						
1. Oil Cooler Flap Control System (CE-425)		C	2	0		May be inoperative in the trail or fully open position provided the oil temperature is closely monitored.